

Claims

The claimed invention is:

1. A video display device comprising:

a display configured to display a primary image and a picture-in-picture image (PIP) overlaying the primary image;

a processor operatively coupled to the display and configured to receive a first video data stream for the primary image, to receive a second video data stream for the PIP, and to change a PIP display characteristic in response to a received audio indication and a related gesture from a user.

2. The video display device of Claim 1, wherein the PIP display characteristic is at least one of a position of the PIP on the display and a display size of the PIP.

3. The video display device of Claim 1, comprising:

a microphone for receiving the audio indication from the user; and

a camera for acquiring an image of the user containing the related gesture.

1 4. The video display device of Claim 1, wherein the processor
2 is configured to analyze audio information received from the
3 user to identify when a PIP related audio indication is intended
4 by the user.

1 5. The video display device of Claim 1, wherein the processor
2 is configured to analyze image information received from the
3 user after the audio indication is received to identify the
4 change in the PIP display characteristic that is expressed by
5 the received gesture.

1 6. The video display device of Claim 5, wherein the image
2 information is contained in a sequence of images and wherein the
3 processor is configured to analyze the sequence of images to
4 determine the received gesture.

1 7. The video display device of Claim 1, wherein the image
2 information is contained in a sequence of images and wherein the
3 processor is configured to determine the received gesture by
4 analyzing the sequence of images and determining a trajectory of
5 a hand of the user.

1 8. The video display device of Claim 1, wherein the processor
2 is configured to determine the received gesture by analyzing an
3 image of the user and determining a posture of a hand of the
4 user.

1 9. The video display device of Claim 1, wherein the video
2 display device is a television.

1 10. The video display device of Claim 1, wherein the image is a
2 sequence of images of the user containing the user gesture, the
3 video display device comprising a camera for acquiring the
4 sequence of images of the user.

1 11. A method of controlling a display characteristic of a
2 picture-in-picture display (PIP) overlaying a primary display,
3 the method comprising:

4 receiving an audio indication from a user;

5 determining whether the received audio indication is one of
6 a plurality of expected audio indications;

7 analyzing a gesture of the user if the received audio
8 indication is one of the plurality of expected audio
9 indications; and

10 controlling the display characteristic if the gesture is a
11 gesture related to the received audio indication.

1 12. The method of Claim 11, wherein analyzing the gesture
2 comprises:

3 receiving a sequence of images; and

4 analyzing the sequence of images to determine the gesture.

1 13. The method of Claim 11, wherein analyzing the gesture
2 comprises:

3 receiving a sequence of images;

4 analyzing the sequence of images to determine a trajectory
5 of a hand of the user; and

6 determining the gesture by the determined trajectory.

1 14. The method of Claim 11, wherein analyzing the gesture
2 comprises:

3 analyzing an image of the user to determine a posture of a
4 hand of the user; and

5 determining the gesture by the determined posture .

1 15. A program segment stored on a processor readable medium for
2 controlling a display characteristic of a picture-in-picture

3 display (PIP) overlaying a primary display, the program segment
4 comprising:

5 a program segment for controlling receipt of an audio
6 indication;

7 a program segment for determining whether a received audio
8 indication is one of a plurality of stored audio indications;

9 a program segment for analyzing a gesture of the user if
10 the received audio indication is one of the plurality of stored
11 audio indications; and

12 a program segment for controlling the display
13 characteristic if the gesture is a gesture related to the
14 received audio indication.

1 16. The program segment of Claim 15, wherein the program
2 segment for analyzing the gesture comprises:

3 a program segment for controlling receipt of a sequence of
4 images; and

5 a program segment for analyzing the sequence of images to
6 determine the gesture.

1 17. The program segment of Claim 15, wherein the program
2 segment for analyzing the gesture comprises:

3 a program segment for controlling receipt of a sequence of
4 images;

5 a program segment for analyzing the sequence of images to
6 determine a trajectory of a hand of the user; and

7 a program segment for determining the gesture by the
8 determined trajectory.

1 18. The program segment of Claim 15, wherein the program
2 segment for analyzing the gesture comprises:

3 a program segment for analyzing an image of the user to
4 determine a posture of a hand of the user; and

5 a program segment for determining the gesture by the
6 determined posture.